

IN THE SPECIFICATION

Please replace the paragraph beginning at page 7, line 14, with the following rewritten paragraph:

FIG. 3A is a plan view showing a flow path pattern formed in a first substrate, FIG. 3B is a sectional view of the first substrate taken along line IIIB-IIIB ~~HIA-HIA~~ in FIG. 3A, and FIG. 3C is a sectional view of the first substrate taken along line IIIC-IIIC in FIG. 3A;

Please replace the paragraph beginning at page 7, line 19, with the following rewritten paragraph:

FIG. 4A is a plan view of an evaporator wick communicating hole, and FIG. 4B is a sectional view of the evaporator wick communicating hole taken along a line parallel to line IIIB-IIIB ~~HIA-HIA~~ in FIG. 3A;

Please replace the paragraph beginning at page 7, line 23, with the following rewritten paragraph:

FIG. 5A ~~[[5]]~~ is a plan view of another example of an evaporator wick communicating hole, and FIG. 5B is a sectional view showing another example of the evaporator wick communicating hole shown in FIG. 4B taken along a line parallel to line IIIB-IIIB ~~HIA-HIA~~ in FIG. 3A;

Please replace the paragraph beginning at page 8, line 1, with the following rewritten paragraph:

FIG. 6A is a plan view showing an evaporator wick communicating hole of a thermal transport apparatus according to a second embodiment of the present invention, and FIG. 6B a sectional view showing the evaporator wick communicating hole taken along a line parallel to line IIIB-IIIB ~~HIA-HIA~~ in FIG. 3A;

Please replace the paragraph beginning at page 8, line 7, with the following rewritten paragraph:

FIG. 7A is a plan view showing an evaporator wick communicating hole of a thermal transport apparatus according to a third embodiment of the present invention, and FIG. 7B a sectional view showing the evaporator wick communicating hole taken along a line parallel to line ~~IIIB-IIIB HIA-HIA~~ in FIG. 3A;

Please replace the paragraph beginning at page 9, line 5, with the following rewritten paragraph:

FIG. 1 is an exploded perspective view of a thermal transport apparatus 1 according to a first embodiment of the present invention, and FIG. 2 is a perspective view of an assembled state of the thermal transport apparatus 1. FIG. 3A is a plan view showing a flow path pattern formed in a first substrate 2, FIG. 3B is a sectional view of the first substrate 2 taken along line ~~IIIB-IIIB HIA-HIA~~ in FIG. 3A, and FIG. 3C is a sectional view of the first substrate 2 taken along line IIIC-IIIC in FIG. 3A. In each of the drawings, flow directions of a working fluid are shown by arrows.

Please replace the paragraph beginning at page 12, line 1, with the following rewritten paragraph:

As shown in FIGS. 4A and 4B, the evaporator wick communicating hole 10 formed in the second substrate 9 is filled with a plurality of grains 20. FIG. 4A is a plan view of the evaporator wick communicating hole 10, and FIG. 4B is a sectional view of the evaporator wick communicating hole 10 taken along a line parallel to line ~~IIIB-IIIB HIA-HIA~~ in FIG. 3A. The evaporator wick communicating hole 10 is filled with the grains 20 having substantially the same grain diameter. FIG. 4B shows an example in which the evaporator wick communicating hole 10 is regularly filled with the grains 20 with a pitch equal to the grain diameter of the grains 20. However, the filling state is not limited to this, and the evaporator wick communicating hole 10 may be filled with the grains 20 in a staggered arrangement, as shown in FIG. 5A ~~[[5]]~~. The filling grains 20 are made of, for example, glass, a synthetic resin, a metal, ceramic, or the like, which has hydrophobicity. Although the grains 20 are preferably spherical, the shape of the gains 20 is not limited to this, and the grains 20 may have any shape as long as spaces are formed between the grains 20 in filling.

Please replace the paragraph beginning at page 12, line 20, with the following rewritten paragraph:

The evaporator 14 is preferably made of a material having a low density and high thermal conductivity, for example, silicon or the like. The material is not limited to this, and for example, a metal such as Cu, Al, Ni, Au, Ag, Pt, or the like, or a material having the same degree of thermal conductivity as that of a metal, for example, a conductive polymer or ceramic, may be used. The irregular wick 15 is formed on a surface of the evaporator 14. The grooves formed by irregularities of the wick 15 ~~of the wick 15~~ have a width smaller than the grain diameter of the grains 20 filling in the evaporator wick communicating hole 10. After the evaporation wick communicating hole 10 is filled with the grains 10, the evaporator 14 is bonded to the second substrate 9 by the anode coupling method to cover the evaporator wick communicating hole 10 and the evaporation part communicating hole 11 so that the surface having the wick 15 formed therein faces the second substrate 9. Since the grooves of the wick 15 have a width smaller than the grain diameter of the grains 20, the grains 20 do not flow to the wick 15. As shown in FIG. 2, an electronic apparatus 21 generating heat, for example, CPU, a graphic chip, a driver IC, or the like, is connected to the other surface of the evaporator 14, for cooling the electronic apparatus 21.

Please replace the paragraph beginning at page 17, line 10, with the following rewritten paragraph:

FIG. 6A is a plan view of the evaporator wick communicating hole 10 of the thermal transport apparatus 1 of the second embodiment, and FIG. 6B is a sectional view of the evaporator wick communicating hole 10 taken along a line parallel to line ~~IIIB-IIIB IIIA-IIA~~ in FIG. 3A. The evaporator wick communicating hole 10 is filled with first grains 30 and second grains 31 filling in the spaces between the first grains 30 and having a smaller diameter than that of the first grains 30. In the first embodiment in which the hole 10 is filled with the grains having a single grain diameter, for example, when the grain diameter is large, the spaces between the grains become large and ~~to~~ fail to obtain a sufficient capillary force in some cases. However, as shown in FIG. 6A ~~[[6]]~~, when the evaporator wick communicating hole 10 is filled with a combination of the first grains 30 and the second grains 31 having a smaller diameter than that of the first grains 30, the spaces between the grains can be made small to further increase the capillary force.

Please replace the paragraph beginning at page 18, line 24, with the following rewritten paragraph:

FIG. 7A is a plan view of the evaporator wick communicating hole 10 of the thermal transport apparatus of the third embodiment, and FIG. 7B is a sectional view of the evaporator wick communicating hole 10 taken along a line parallel to line ~~IIIB-IIIB~~ ~~IIIA-IIIA~~ in FIG. 3A. As shown in FIGS. 1 and 7B, the evaporator wick communicating hole 10 is filled with grains 40 having a plurality of grain diameters so that the grain diameter decreases in the direction (the downward direction in the drawing) from the liquid-phase path 5 to the wick 15 of the evaporator 14.

Please replace the paragraph beginning at page 19, line 20, with the following rewritten paragraph:

~~As shown in FIG. 7, the~~ The evaporator wick communicating hole 10 is filled with the grains 40 having a plurality of grain diameters so that the grain diameter decreases in the direction from the liquid-phase path 5 to the wick 15 of the evaporator 14, and then heated to a temperature higher than the softening point of the grains 40 for a short time. Although not shown in the drawings, a quartz glass plate is provided at the bottom of the evaporator wick communicating hole 10 filled with the grains 40 so as to prevent the grains from flowing from the evaporator wick communicating hole 10 to the outside during heating. Heating to a temperature higher than the softening point of the grains 40 for a short time can form welded portions 41 to partially weld the surfaces of the adjacent grains 40, as shown in FIG. 8 which is a sectional view of the evaporator wick communicating hole 10. In the method for partially welding the surfaces of the adjacent grains 40 by heating, for example, the second substrate 9 made of heat-resistant glass and having the evaporator wick communicating hole 10 filled with the grains 40 made of soda-lime glass is heated in a furnace to weld the adjacent grains 40.